If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.
Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.120.2.h 2 O'Clock (PEER 11) Oxygen Deficiency Hazard (ODH) Tests

C-A-OPM Procedures in which this Attachment is used.		
4.120.2		

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

V. Castillo

4.120.2.h 2 O'Clock (PEER 11) Oxygen Deficiency Hazard(ODH) Tests

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:_____ Checksum: _____

Division B Software Filename and Checksum: Title:_____ Checksum: _____

Initial testing complete:

Test Team Leader's Name (Print): _____ Life Number: _____

Test Team Leader's Name (Sign): _____ Date: _____/____/_____

Acceptance test procedure complete (following repairs and retesting if required):

Test Team Leader's Name (Print): _____ Life Number:_____

Test Team Leader's Name (Sign): _____ Date: _____/____/_____

Test results reviewed by:

Safety Section Head's Name (Print):_____ Life Number: _____

Safety Section Head's Name (Sign):_____ Date: _____/____/_____

Test results accepted by Radiation Safety Committee:

RSC Member's Name (Print):_____ Life Number: _____

RSC Member's Name (Sign):_____ Date: _____/____/_____

1.1 Conduct a visual check on Peer 11 Crash and Crash/ODH boxes following Table 1 below
√ = ok, x = problem

BOXES		Verify mechan condn. ok	Verify elec. condn. ok	Crash/ODH boxes only				Verify all X's corrected
				Division A		Division B		
CRASH	Crash/ODH			Lcd Rdg	Tp2 – Tp4 Vltg	Lcd Rdg	Tp2 – Tp4 Vltg	
1CB1		□	□	N/A	N/A	N/A	N/A	□
	1CB2	□	□	%	V	%	V	□
1CB3		□	□	N/A	N/A	N/A	N/A	□
	1CB4	□	□	%	V	%	V	□
	1CB5	□	□	%	V	%	V	□
	2XCB3	□	□	%	V	%	V	□
	2XCB2	□	□	%	V	%	V	□
	2XCB1	□	□	%	V	%	V	□
	2XCB4	□	□	%	V	%	V	□
2CB1		□	□	N/A	N/A	N/A	N/A	□
	2CB2	□	□	%	V	%	V	□
	2CB3	□	□	%	V	%	V	□
	2CB4	□	□	%	V	%	V	□
	2CB5	□	□	%	V	%	V	□

Table 1 – Summary of visual check on Crash and Crash/ODH boxes in Peer 11

1.2 Verification of valid calibration of ODH sensors in Peer 11, following Table 2 below
√ = ok, x = problem

ODH sensor	Verify valid calibration	Record calibration date	Verify all x's corrected	Record new calibration date
1AS1	□	_____/_____/_____	□	_____/_____/_____
1AS2	□	_____/_____/_____	□	_____/_____/_____
1AS3	□	_____/_____/_____	□	_____/_____/_____
2XAS1	□	_____/_____/_____	□	_____/_____/_____
2XAS2	□	_____/_____/_____	□	_____/_____/_____
2XAS3	□	_____/_____/_____	□	_____/_____/_____
2XAS4	□	_____/_____/_____	□	_____/_____/_____
2AS1	□	_____/_____/_____	□	_____/_____/_____
2AS2	□	_____/_____/_____	□	_____/_____/_____
2AS3	□	_____/_____/_____	□	_____/_____/_____
2AS4	□	_____/_____/_____	□	_____/_____/_____

Table 2 – Verification of valid calibration of ODH sensors in Peer 11

1.3 Test of ODH sensor 1AS1 in 1CB2

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **1AS1**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **1AS1 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS1 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **1CB2** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **1CB2** are	**SOUNDING**
□	**VERIFY**	Fan **1EF2** is	**ON**
□	**VERIFY**	Vent **1AV1** is	**OPEN**
□	**VERIFY**	Vent **1AV2** is	**OPEN**
	HALT	**Flow** of gas on **1AS1**	
	WAIT	For **1AS1** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **1CB2** are	**OFF**
□	**VERIFY**	Fan **1EF2** is	**OFF**
□	**VERIFY**	Vent **1AV1** is	**CLOSED**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 1AS1**

1.4 Test of ODH sensor 1AS2 in 1CB4

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **1AS2**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **1AS2 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS2 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **1CB4** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **1CB4** are	**SOUNDING**
□	**VERIFY**	Fan **1EF3**is	**ON**
□	**VERIFY**	Vent **1AV2** is	**OPEN**
□	**VERIFY**	Vent **1AV3** is	**OPEN**
	HALT	**Flow** of gas on **1AS2**	
	WAIT	For **1AS2** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **1CB4** are	**OFF**
□	**VERIFY**	Fan **1EF2** is	**OFF**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**

□	**VERIFY**	Vent **1AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 1AS2**

1.5 Test of ODH sensor 1AS3 in 1CB5

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **1AS3**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **1AS3 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS3 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **1CB5** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **1CB5** are	**SOUNDING**
□	**VERIFY**	Fan **1EF3** is	**ON**
□	**VERIFY**	Vent **1AV2** is	**OPEN**
□	**VERIFY**	Vent **1AV3** is	**OPEN**
	HALT	**Flow** of gas on **1AS3**	
	WAIT	For **1AS3** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **1CB5** are	**OFF**
□	**VERIFY**	Fan **1EF3** is	**ON**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**
□	**VERIFY**	Vent **1AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 1AS3**

1.6 Test of ODH sensor 2XAS1 in 2XCB3

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2XAS1**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **2XAS1 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2XAS1 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **2XCB3** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2XCB3** are	**SOUNDING**
□	**VERIFY**	Fan **2XEF1** is	**ON**
□	**VERIFY**	Vent **2XAV1** is	**OPEN**

☐	**VERIFY**	Vent **2XAV2** is	**OPEN**
	HALT	**Flow** of gas on **2XAS1**	
	WAIT	For **2XAS1** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2XCB3** are	**OFF**
☐	**VERIFY**	Fan **2XEF1** is	**OFF**
☐	**VERIFY**	Vent **2XAV1** is	**CLOSED**
☐	**VERIFY**	Vent **2XAV2** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 2XAS1**

1.7 Test of ODH sensor 2XAS2 in 2XCB2

	PLACE	**Peer 11** in **Mode 8**	
☐	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2XAS2**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **2XAS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **2XAS2 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **2XCB2** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **2XCB2** are	**SOUNDING**
☐	**VERIFY**	Fan **2XEF1** is	**ON**
☐	**VERIFY**	Vent **2XAV1** is	**OPEN**
☐	**VERIFY**	Vent **2XAV2** is	**OPEN**
	HALT	**Flow** of gas on **2XAS2**	
	WAIT	For **2XAS2** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2XCB2** are	**OFF**
☐	**VERIFY**	Fan **2XEF1** is	**OFF**
☐	**VERIFY**	Vent **2XAV1** is	**CLOSED**
☐	**VERIFY**	Vent **2XAV2** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 2XAS2**

1.8 Test of ODH sensor 2XAS3 in 2XCB1

	PLACE	**Peer 11** in **Mode 8**	
☐	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2XAS3**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**

□	**VERIFY**	**MCR** sees **2XAS3 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2XAS3 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **2XCB1** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2XCB1** are	**SOUNDING**
	HALT	**Flow** of gas on **2XAS3**	
	WAIT	For **2XAS3** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2XCB1** are	**OFF**
□	**VERIFY**	**Strobes** and **sonalerts** on **2XCB2 and 2XCB3** are	**OFF**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2XCB1**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2XCB1**	
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes □, Sonalerts □**	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes □, Sonalerts □**	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2XCB1**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2XCB1**	
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 2XAS3**

1.9 Test of ODH sensor 2AS1 in 2CB2

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2AS1**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **2AS1 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2AS1 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **2CB2** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2CB2** are	**SOUNDING**
□	**VERIFY**	Fan **2EF1** is	**ON**
□	**VERIFY**	Vent **2XAV2** is	**OPEN**
□	**VERIFY**	Vent **2AV1** is	**OPEN**
	HALT	**Flow** of gas on **2AS1**	
	WAIT	For **2AS1** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2CB2** are	**OFF**
□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	

☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 2AS1**

1.10 Test of ODH sensor 2AS2 in 2CB3

	PLACE	**Peer 11** in **Mode 8**	
☐	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2AS2**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **2AS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **2AS2 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **2CB3** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **2CB3** are	**SOUNDING**
☐	**VERIFY**	Fan **2EF2** is	**ON**
☐	**VERIFY**	Vent **2AV1** is	**OPEN**
☐	**VERIFY**	Vent **2AV2** is	**OPEN**
	HALT	**Flow** of gas on **2AS2**	
	WAIT	For **2AS2** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2CB3** are	**OFF**
☐	**VERIFY**	Fan **2EF2** is	**OFF**
☐	**VERIFY**	Vent **2AV** is	**CLOSED**
☐	**VERIFY**	Vent **2AV2** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 2AS2**

1.11 Test of ODH sensor 2AS3 in 2CB4

	PLACE	**Peer 11** in **Mode 8**	
☐	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2AS3**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **2AS3 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **2AS3 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **2CB4** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **2CB4** are	**SOUNDING**
☐	**VERIFY**	Fan **2EF2** is	**ON**
☐	**VERIFY**	Vent **2AV1** is	**OPEN**
☐	**VERIFY**	Vent **2AV2** is	**OPEN**
	HALT	**Flow** of gas on **2AS3**	
	WAIT	For **2AS3** to clear (level ~ trip-level above)	

□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2CB4** are	**OFF**
□	**VERIFY**	Fan **2EF2** is	**OFF**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 2AS3**

1.12 Test of ODH sensor 2AS4 in 2CB5

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2AS4**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **2AS4 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2AS4 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **2CB5** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2CB5** are	**SOUNDING**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**
	HALT	**Flow** of gas on **2AS4**	
	WAIT	For **2AS4** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2CB5** are	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2CB5**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2CB5**	
□	**VERIFY**	**Div A & B strobes** on **2CB5** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2CB5** are	**SOUNDING**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2CB5**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2CB5**	

□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2CB5** are	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 2AS4**

1.13 10-minute Activation test of sensor 1AS1 in sector 1

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 1CB2**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 1CB2**	
□	**VERIFY**	**MCR** sees **Peer 11** is in	**MODE 2**
□	**VERIFY**	**MCR** sees **1AS1 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS1 Div B**	**TRIPPED**
□	**VERIFY**	Fan **1EF2** is **immediately**	**ON**
□	**VERIFY**	Vent **1AV1** is **immediately**	**OPEN**
□	**VERIFY**	Vent **1AV2** is **immediately**	**OPEN**
	AFTER	~ **30 secs**	
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	BEGIN	**10-minute timer**	
	RECORD	**Volume of air-flow** at the inlet of fan **1EF2**	**_____ LFM**
		Target flow value (± 10%)	***2078 LFM***
□	**VERIFY**	Air flow at tell-tale of vent **1AV1** is	**ADEQUATE**
□	**VERIFY**	Air flow at tell-tale of vent **1AV2** is	**ADEQUATE**
	AFTER	**~ 10 minutes**	
	RECORD	**Duration of timer**	**_____ mins**
□	**VERIFY**	Fan **1EF1** is	**ON**
□	**VERIFY**	Fan **1EF3** is	**ON**
□	**VERIFY**	Fan **1EF4** is	**ON**
□	**VERIFY**	Fan **12EF1** is	**ON**
□	**VERIFY**	Fan **12XEF2** is	**ON**
□	**VERIFY**	Vent **12AV1** is	**OPEN**
□	**VERIFY**	Vent **12AV2** is	**OPEN**
□	**VERIFY**	Vent **12AV3** is	**OPEN**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 1CB2**	

	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 1CB2**	
□	**VERIFY**	Fan **1EF2** is	**OFF**
□	**VERIFY**	Vent **1AV1** is	**CLOSED**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**
□	**VERIFY**	Fan **1EF1** is	**OFF**
□	**VERIFY**	Fan **1EF3** is	**OFF**
□	**VERIFY**	Fan **1EF4** is	**OFF**
□	**VERIFY**	Fan **12EF1** is	**OFF**
□	**VERIFY**	Fan **12XEF2** is	**OFF**
□	**VERIFY**	Vent **12AV1** is	**CLOSED**
□	**VERIFY**	Vent **12AV2** is	**CLOSED**
□	**VERIFY**	Vent **12AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 1AS1 on for > 10 minutes**

1.14 Test Activation of multiple sensors, 1AS2 and 1AS3, in sector 1

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 1CB4**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 1CB4**	
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 1CB5**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 1CB5**	
□	**VERIFY**	**MCR** sees **Peer 11** is in	**MODE 2**
□	**VERIFY**	**MCR** sees **1AS2 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS2 Div B**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS3 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **1AS3 Div B**	**TRIPPED**
□	**VERIFY**	Fan **1EF1** is	**ON**
□	**VERIFY**	Fan **1EF2** is	**ON**
□	**VERIFY**	Fan **1EF3** is	**ON**
□	**VERIFY**	Fan **1EF4** is	**ON**
□	**VERIFY**	Fan **12EF1** is	**ON**
□	**VERIFY**	Fan **12XEF2** is	**ON**
□	**VERIFY**	Vent **1AV1** is	**OPEN**
□	**VERIFY**	Vent **1AV2** is	**OPEN**
□	**VERIFY**	Vent **1AV3** is	**OPEN**
□	**VERIFY**	Vent **12AV1** is	**OPEN**
□	**VERIFY**	Vent **12AV2** is	**OPEN**
□	**VERIFY**	Vent **12AV3** is	**OPEN**
	AFTER	**~ 30 secs**	

	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □**,** **Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □**,** **Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 1CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 1CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 1CB4**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 1CB4**	
□	**VERIFY**	Fan **1EF1** is	**OFF**
□	**VERIFY**	Fan **1EF2** is	**OFF**
□	**VERIFY**	Fan **1EF3** is	**OFF**
□	**VERIFY**	Fan **1EF4** is	**OFF**
□	**VERIFY**	Fan **12EF1** is	**OFF**
□	**VERIFY**	Fan **12XEF2** is	**OFF**
□	**VERIFY**	Vent **1AV1** is	**CLOSED**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**
□	**VERIFY**	Vent **1AV3** is	**CLOSED**
□	**VERIFY**	Vent **12AV1** is	**CLOSED**
□	**VERIFY**	Vent **12AV2** is	**CLOSED**
□	**VERIFY**	Vent **12AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of Activation of multiple sensors 1AS1 and 1AS2 in sector 1**

1.15 10-minute Activation test of sensor 2XAS1 in sector 2 Experimental area

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2XCB3**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2XCB3**	
□	**VERIFY**	**MCR** sees **Peer 11** is in	**MODE 2**
□	**VERIFY**	**MCR** sees **2XAS1 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2XAS1 Div B**	**TRIPPED**
□	**VERIFY**	Fan **2XEF1** is **immediately**	**ON**
□	**VERIFY**	Fan **2XAV1** is **immediately**	**OPEN**
□	**VERIFY**	Vent **2XAV2** is **immediately**	**OPEN**
□	**VERIFY**	Vent **2XAV3** is **immediately**	**OPEN**
	AFTER	~ **30 secs**	
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □**,** **Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □**,** **Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**

	BEGIN	**10-minute timer**	
	RECORD	**Volume of air-flow** at the **upper** inlet of fan **2XEF1**	**_____ LFM**
	RECORD	**Volume of air-flow** at the **lower** inlet of fan **2XEF1**	**_____ LFM**
		Target flow value (± 10%) is the sum of both ducts	***2169 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **2XAV1** is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of vent **2XAV2** is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of vent **2XAV3** is	**ADEQUATE**
	AFTER	**~ 10 minutes**	
	RECORD	**Duration of timer**	**_____ mins**
☐	**VERIFY**	Fan **2EF1** is	**ON**
☐	**VERIFY**	Fan **2EF2** is	**ON**
☐	**VERIFY**	Fan **3EF1** is	**ON**
☐	**VERIFY**	Vent **2AV1** is	**OPEN**
☐	**VERIFY**	Vent **2AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2XCB3**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2XCB3**	
☐	**VERIFY**	Fan **2XEF1** is	**OFF**
☐	**VERIFY**	Fan **2XAV1** is	**CLOSED**
☐	**VERIFY**	Vent **2XAV2** is	**CLOSED**
☐	**VERIFY**	Vent **2XAV3** is	**CLOSED**
☐	**VERIFY**	Fan **2EF1** is	**OFF**
☐	**VERIFY**	Fan **2EF2** is	**OFF**
☐	**VERIFY**	Fan **3EF1** is	**OFF**
☐	**VERIFY**	Vent **2AV1** is	**CLOSED**
☐	**VERIFY**	Vent **2AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 2XAS1 on for > 10 minutes**

1.16 Test Activation of multiple sensors, 2XAS1 and 2XAS2, in sector 2 Experimental area

	PLACE	**Peer 11** in **Mode 8**	
☐	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2XCB2**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2XCB2**	
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2XCB3**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2XCB3**	
☐	**VERIFY**	**MCR** sees **Peer 11** is in	**MODE 2**
☐	**VERIFY**	**MCR** sees **2XAS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **2XAS1 Div B**	**TRIPPED**

□	**VERIFY**	**MCR** sees **2XAS2 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2XAS2 Div B**	**TRIPPED**
□	**VERIFY**	Fan **2EF1** is	**ON**
□	**VERIFY**	Fan **2EF2** is	**ON**
□	**VERIFY**	Fan **2XEF1** is	**ON**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Vent **2AV1** is	**OPEN**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **2XAV1** is	**OPEN**
□	**VERIFY**	Vent **2XAV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**
	AFTER	~ **30 secs**	
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □**, Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □**, Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2XCB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2XCB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2XCB3**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2XCB3**	
□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Fan **2EF2** is	**OFF**
□	**VERIFY**	Fan **2XEF1** is	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **2XAV1** is	**CLOSED**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of Activation of multiple sensors 2XAS1 and 1AS2 in sector 2 Experimental area**

1.17 10-minute Activation test of sensor 2AS1 in sector 2

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2CB2**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2CB2**	
□	**VERIFY**	**MCR** sees **Peer 11** is in	**MODE 2**
□	**VERIFY**	**MCR** sees **2AS1 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2AS1 Div B**	**TRIPPED**

□	**VERIFY**	Fan **2EF1** is **immediately**	**ON**
□	**VERIFY**	Vent **2XAV2** is **immediately**	**OPEN**
□	**VERIFY**	Vent **2AV1** is **immediately**	**OPEN**
	AFTER	**~ 30 secs**	
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □**, Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □**, Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	BEGIN	**10-minute timer**	
	RECORD	**Volume of air-flow** at the inlet of fan **2EF1**	**_____ LFM**
		Target flow value (± 10%)	***2078 LFM***
□	**VERIFY**	Air flow at tell-tale of vent **2AV1** is	**ADEQUATE**
	AFTER	**~ 10 minutes**	
	RECORD	**Duration of timer**	**_____ mins**
□	**VERIFY**	Fan **2EF2** is	**ON**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Fan **3EF2** is	**ON**
□	**VERIFY**	Fan **4XEF1** is	**ON**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**
□	**VERIFY**	Vent **3AV2** is	**OPEN**
□	**VERIFY**	Vent **3AV3** is	**OPEN**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2CB2**	
□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Fan **2EF2** is	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Fan **3EF2** is	**OFF**
□	**VERIFY**	Fan **4XEF1** is	**OFF**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**
□	**VERIFY**	Vent **3AV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 2AS1 on for > 10 minutes**

1.18 Test Activation of multiple sensors, 2AS2 and 2AS3, in sector 2

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2CB3**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2CB3**	
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2CB4**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2CB4**	
□	**VERIFY**	**MCR** sees **Peer 11** is in	**MODE 2**
□	**VERIFY**	**MCR** sees **2AS2 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2AS2 Div B**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2AS3 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2AS3 Div B**	**TRIPPED**
□	**VERIFY**	Fan **2EF1** is	**ON**
□	**VERIFY**	Fan **2EF2** is	**ON**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Fan **3EF2** is	**ON**
□	**VERIFY**	Fan **4XEF1** is	**ON**
□	**VERIFY**	Vent **2AV1** is	**OPEN**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **2XAV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**
□	**VERIFY**	Vent **3AV2** is	**OPEN**
□	**VERIFY**	Vent **3AV3** is	**OPEN**
	AFTER	~ **30 secs**	
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2CB3**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2CB3**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2CB4**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2CB4**	
□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Fan **2EF2** is	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Fan **3EF2** is	**OFF**
□	**VERIFY**	Fan **4XEF1** is	**OFF**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**
□	**VERIFY**	Vent **3AV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	

☐ **VERIFY** **MCR** sees **ODH** as **RESET**

☐ **Check for Test Acceptance of Activation of multiple sensors 2AS2 and 2AS3 in Sector 2**

1.19 Test Manual fan ON/OFF controls in Alcove 1C

PLACE **Peer 11** in **Mode 8**
☐ **VERIFY** **Peer 11** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Alcove 1C**
BEGIN **90-sec timer**

☐ **VERIFY** Fan **1EF2** is **ON**
☐ **VERIFY** Fan **1EF3** is **ON**
☐ **VERIFY** Fan **1EF4** is **ON**
☐ **VERIFY** Vent **1AV1** is **OPEN**
☐ **VERIFY** Vent **1AV2** is **OPEN**
☐ **VERIFY** Vent **1AV3** is **OPEN**

PRESS Fan **OFF** button in **Alcove 1C**
AFTER **90 secs** from **ON** command

☐ **VERIFY** Fan **1EF2** is **OFF**
☐ **VERIFY** Fan **1EF3** is **OFF**
☐ **VERIFY** Fan **1EF4** is **OFF**
☐ **VERIFY** Vent **1AV1** is **CLOSED**
☐ **VERIFY** Vent **1AV2** is **CLOSED**
☐ **VERIFY** Vent **1AV3** is **CLOSED**

☐ **Check for Test Acceptance of Manual fan-ON/OFF controls in Alcove 1C**

1.20 Test Manual fan ON/OFF controls at Experimental area fan control box

PLACE **Peer 11** in **Mode 8**
☐ **VERIFY** **Peer 11** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Experimental area fan control box**
BEGIN **90-sec timer**

☐ **VERIFY** Fan **2XEF1** is **ON**
☐ **VERIFY** Vent **2XAV1** is **OPEN**
☐ **VERIFY** Vent **2XAV2** is **OPEN**
☐ **VERIFY** Vent **2XAV3** is **OPEN**

PRESS Fan **OFF** button in **Experimental area fan control box**
AFTER **90 secs** from **ON** command

☐ **VERIFY** Fan **2XEF1** is **OFF**
☐ **VERIFY** Vent **2XAV1** is **CLOSED**
☐ **VERIFY** Vent **2XAV2** is **CLOSED**

☐ **VERIFY** Vent **2XAV3** is **CLOSED**

☐ **Check for Test Acceptance of Manual fan ON/OFF controls at Experimental area fan control box**

1.21 Test Manual fan ON/OFF controls in Alcove 3A

PLACE **Peer 11** in **Mode 8**
☐ **VERIFY** **Peer 11** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Alcove 3A**
BEGIN **90-sec timer**

☐ **VERIFY** Fan **2EF1** is **ON**
☐ **VERIFY** Fan **2EF2** is **ON**
☐ **VERIFY** Fan **3EF1** is **ON**
☐ **VERIFY** Vent **2AV1** is **OPEN**
☐ **VERIFY** Vent **2AV2** is **OPEN**
☐ **VERIFY** Vent **2XAV2** is **OPEN**
☐ **VERIFY** Vent **3AV1** is **OPEN**

RECORD **Volume of air-flow** at the inlet of fan **2EF2** **_____ LFM**
Target flow value (± 10%) ***2078 LFM***
☐ **VERIFY** Air flow at tell-tale of vent **2AV2** is **ADEQUATE**
RECORD **Volume of air-flow** at the inlet of fan **3EF1** **_____ LFM**
Target flow value (± 10%) ***1592 LFM***
☐ **VERIFY** Air flow at tell-tale of vent **3AV1** is **ADEQUATE**

PRESS Fan **OFF** button in **Alcove 3A**
AFTER **90 secs** from **ON** command

☐ **VERIFY** Fan **2EF1** is **OFF**
☐ **VERIFY** Fan **2EF2** is **OFF**
☐ **VERIFY** Fan **3EF1** is **OFF**
☐ **VERIFY** Vent **2AV1** is **CLOSED**
☐ **VERIFY** Vent **2AV2** is **CLOSED**
☐ **VERIFY** Vent **2XAV2** is **CLOSED**
☐ **VERIFY** Vent **3AV1** is **CLOSED**

☐ **Check for Test Acceptance of Manual fan ON/OFF controls in Alcove 3A**

1.22 Test Manual fan ON/OFF controls in Alcove 3B

PLACE **Peer 11** in **Mode 8**
☐ **VERIFY** **Peer 11** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Alcove 3B**
BEGIN **90-sec timer**

☐ **VERIFY** Fan **2EF1** is **ON**

□	**VERIFY**	Fan **2EF2** is	**ON**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Vent **2AV1** is	**OPEN**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **2XAV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**

PRESS Fan **OFF** button in **Alcove 3B**
AFTER **90 secs** from **ON** command

□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Fan **2EF2** is	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**

□ **Check for Test Acceptance of Manual fan ON/OFF controls in Alcove 3B**

1.23 Test of Manual fan OFF controls in MCR

PRESS Fan **ON** button in **Alcove 1C**
PRESS Fan **ON** button in **Alcove 3A**
PRESS Fan **ON** button in **Experimental area fan control box**

BEGIN **90-sec timer**

□	**VERIFY**	Fan **1EF2** is	**ON**
□	**VERIFY**	Fan **1EF3** is	**ON**
□	**VERIFY**	Fan **1EF4** is	**ON**
□	**VERIFY**	Fan **2EF1** is	**ON**
□	**VERIFY**	Fan **2EF2** is	**ON**
□	**VERIFY**	Fan **2XEF1** is	**ON**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Vent **1AV1** is	**OPEN**
□	**VERIFY**	Vent **1AV2** is	**OPEN**
□	**VERIFY**	Vent **1AV3** is	**OPEN**
□	**VERIFY**	Vent **2AV1** is	**OPEN**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **2XAV1** is	**OPEN**
□	**VERIFY**	Vent **2XAV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**

PRESS Fan **OFF** button in **MCR**
AFTER **90 secs** from **ON** command

□	**VERIFY**	Fan **1EF2** is	**OFF**
□	**VERIFY**	Fan **1EF3** is	**OFF**
□	**VERIFY**	Fan **1EF4** is	**OFF**
□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Fan **2EF2** is	**OFF**

□	**VERIFY**	Fan **2XEF1** is	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Vent **1AV1** is	**CLOSED**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**
□	**VERIFY**	Vent **1AV3** is	**CLOSED**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **2XAV1** is	**CLOSED**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**
□	**VERIFY**	Vent **3AV1** is	**CLOSED**

□ **Check for Test Acceptance of Manual fan OFF controls in MCR**

1.24 Test of Emergency fan ON/OFF controls at 2GE2

PRESS **Emergency** fan **ON** button at gate **2GE2**

BEGIN **90-sec timer**

□	**VERIFY**	Fan **1EF2** is	**ON**
□	**VERIFY**	Fan **1EF3** is	**ON**
□	**VERIFY**	Fan **1EF4** is	**ON**
□	**VERIFY**	Fan **2EF1** is	**ON**
□	**VERIFY**	Fan **2EF2** is	**ON**
□	**VERIFY**	Fan **2XEF1** is	**ON**
□	**VERIFY**	Fan **3EF1** is	**ON**
□	**VERIFY**	Vent **1AV1** is	**OPEN**
□	**VERIFY**	Vent **1AV2** is	**OPEN**
□	**VERIFY**	Vent **1AV3** is	**OPEN**
□	**VERIFY**	Vent **2AV1** is	**OPEN**
□	**VERIFY**	Vent **2AV2** is	**OPEN**
□	**VERIFY**	Vent **2XAV1** is	**OPEN**
□	**VERIFY**	Vent **2XAV2** is	**OPEN**
□	**VERIFY**	Vent **3AV1** is	**OPEN**

PRESS **Emergency** fan **OFF** button at gate **2GE2**
AFTER **90 secs** from **ON** command

□	**VERIFY**	Fan **1EF2** is	**OFF**
□	**VERIFY**	Fan **1EF3** is	**OFF**
□	**VERIFY**	Fan **1EF4** is	**OFF**
□	**VERIFY**	Fan **2EF1** is	**OFF**
□	**VERIFY**	Fan **2EF2** is	**OFF**
□	**VERIFY**	Fan **2XEF1** is	**OFF**
□	**VERIFY**	Fan **3EF1** is	**OFF**
□	**VERIFY**	Vent **1AV1** is	**CLOSED**
□	**VERIFY**	Vent **1AV2** is	**CLOSED**
□	**VERIFY**	Vent **1AV3** is	**CLOSED**
□	**VERIFY**	Vent **2AV1** is	**CLOSED**
□	**VERIFY**	Vent **2AV2** is	**CLOSED**
□	**VERIFY**	Vent **2XAV1** is	**CLOSED**
□	**VERIFY**	Vent **2XAV2** is	**CLOSED**

□	**VERIFY**	Vent **3AV1** is	**CLOSED**

□ **Check for Test Acceptance of Emergency fan OFF controls at gate 2GE2**

1.25 Test of ODH sensor 2XAS4 in 2XCB4 in 1002B service building

	PLACE	**Peer 11** in **Mode 8**	
□	**VERIFY**	**Peer 11** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **2XAS4**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
□	**VERIFY**	**MCR** sees **2XAS4 Div A**	**TRIPPED**
□	**VERIFY**	**MCR** sees **2XAS4 Div B**	**TRIPPED**
□	**VERIFY**	**Div A & B strobes** on **2XCB4** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2XCB4** are	**SOUNDING**
□	**VERIFY**	Fan **1002B** is	**ON**
□	**VERIFY**	Vent **1002B** is	**OPEN**
	HALT	**Flow** of gas on **2XAS4**	
	WAIT	For **2XAS4** to clear (level ~ trip-level above)	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2XCB4** are	**OFF**
□	**VERIFY**	Fan **1002B** is	**OFF**
□	**VERIFY**	Vent **1002B** is	**CLOSED**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 2XCB4**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 2XCB4**	
□	**VERIFY**	**Div A & B strobes** on **2XCB4** are	**FLASHING**
□	**VERIFY**	**Div A & B sonalerts** on **2XCB4** are	**SOUNDING**
□	**VERIFY**	Fan **1002B** is	**ON**
□	**VERIFY**	Vent **1002B** is	**OPEN**
	TURN	Bypass Switch **to** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~90secs) □	**STOP**
	TURN	Bypass Switch **from** Bypass	
□	**VERIFY**	**Strobes** □, **Sonalerts** □ and **Fans** (after ~30secs) □	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 2XCB4**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 2XCB4**	
□	**VERIFY**	**Div A & B strobes** and **sonalerts** on **2XCB4** are	**OFF**
□	**VERIFY**	Fan **1002B** is	**OFF**
□	**VERIFY**	Vent **1002B** is	**CLOSED**
	RESET	**ODH** in **MCR**	
□	**VERIFY**	**MCR** sees **ODH** as	**RESET**

□ **Check for Test Acceptance of sensor 2XAS4**

1.26 Summary of flow at fan intakes and vents in Sector 2

	RECORD	**Volume of air-flow** at the inlet of fan **1EF2**	**_____ LFM**
		Target flow value (±10%)	***2078 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **1AV1** is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of vent **1AV2** is	**ADEQUATE**
	RECORD	**Volume of air-flow** at the inlet of fan **1EF3**	**_____ LFM**
		Target flow value (±10%)	***1592 LFM***
	RECORD	**Volume of air-flow** at the inlet of fan **1EF4**	**_____ LFM**
		Target flow value (±10%)	***1592 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **2XAV1** is	**ADEQUATE**
	RECORD	**Volume of air-flow** at the **upper** inlet of fan **2XEF1**	**_____ LFM**
	RECORD	**Volume of air-flow** at the **lower** inlet of fan **2XEF1**	**_____ LFM**
		Target flow value (±10%) is the sum of both ducts	***2169 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **2XAV2** is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of vent **2XAV3** is	**ADEQUATE**
	RECORD	**Volume of air-flow** at the inlet of fan **2EF1**	**_____ LFM**
		Target flow value (±10%)	***2078 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **2AV1** is	**ADEQUATE**
	RECORD	**Volume of air-flow** at the inlet of fan **2EF2**	**_____ LFM**
		Target flow value (±10%)	***2078 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **2AV2** is	**ADEQUATE**
	RECORD	**Volume of air-flow** at the inlet of fan **3EF1**	**_____ LFM**
		Target flow value (±10%)	***1592 LFM***
☐	**VERIFY**	Air flow at tell-tale of vent **3AV1** is	**ADEQUATE**

☐ **Check for Acceptance of summary of air-flow at fan intakes and vents in Sector 2**

END OF TEST PROCEDURE

TTL: Sign for completion of initial testing: _____

Date: _____/____/_____

TTL: Sign for completion of final testing: _____

Date: _____/_____/_____